Application No. 10/656,972

Amendment Prior to First Office Action

Amendment dated 07 January 2004

## Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of the claims in the application:

## **Listing of Claims:**

1. (currently amended) A quick release fastener for detachable mounting of a wheel hub to the fork of a bicycle, the fastener An improved cam assembly for comprising:

a cam lever head having a long travel face, and a cam lever arm, and said cam lever head including a cam axle for rotation thereabout by said cam lever arm and said cam lever arm and hold and release means cooperative with said cam axle having cooperative means for providing multiple locking positions of rotation of said cam lever arm about said cam axle; and

a longitudinally extending skewer shaft connected to and operated by said cam axle for insertion through said wheel hub.

said cam axle including multiple indentations in said cam axle and said hold and release means including a hold and release pin and a spring whereby under pressure from said spring said hold and release pin forces a ball bearing into a selected one of said multiple indentations thereby locking said lever arm and upon depressing said hold and release pin against said spring said ball bearing is released thereby allowing further movement of said lever arm.

2. (currently amended) The quick release fastener of claim 1 wherein An improved quick release fastener for detachable mounting of a hollow wheel hub to the fork of a bicycle, the fastener comprising:

said cooperative means includes multiple locking locations in said axle means and access means in said lever arm for selectively engaging and disengaging said locking locations; and

a cam assembly including a cam lever head having a long travel face and a lever arm,

a skewer shaft having a first end, a second end, and a longitudinal axis for insertion through said wheel hub;

an adjustable end nut on said first end of said skewer shaft outside said wheel hub and a profile washer on the other side of said wheel hub adjacent said second end of said skewer, said profile washer adapted for coaction with said long travel face of said cam lever head;

a first hub centering spring on said skewer shaft adjacent said adjustable end nut; a second hub centering spring on said skewer shaft inward of said profile washer;

said cam lever head includes a cam axle for rotation thereabout by said cam lever arm and hold and release means cooperative with said cam axle for providing multiple locking positions of rotation of said cam lever arm;

said cam axle including multiple cavities and said hold and release means including a pin and a spring whereby said spring urges said pin to force a ball bearing into a selected one of said cavities thereby locking said lever arm and upon depressing said pin against said spring said ball bearing is released thereby allowing movement of said lever arm; and

wherein cooperative operation of said cam lever arm and <u>said axle means</u> hold and release pin provides multiple locking positions <u>of rotation of said cam lever arm about said cam axle</u> for detachable mounting of said wheel hub to said fork.

## Please add new claims 3-10 as follows:

- 3. (new): The quick release fastener of claim 2 wherein said locking locations in said axle means include receptor means responsive to said actuating means for connecting said locking locations to and disconnecting them from said actuating means thereby allowing further rotation of said lever arm about said cam axle.
- 4. (new): The quick release fastener of claim 3 wherein said receptor means includes multiple cavities and said actuating means includes a spring urged pin for forcing a ball bearing into a selected cavity thereby locking said lever arm, and whereupon depressing said pin against said spring releases said ball bearing from said selected cavity thereby allowing movement of said lever arm to provide multiple locking positions for detachable mounting of said wheel hub to said fork.

5. (new): A quick release assembly for detachable mounting of a wheel hub to the fork of a bicycle, the assembly comprising:

a long travel cam lever arm, axle means for rotation of said came lever arm thereabout, and a skewer shaft connected and responsive to rotation of said axle means;

said axle means and said cam lever arm having cooperative means for providing multiple holding positions of rotation of said lever arm about said axle; and

said skewer shaft having a first end attached to said axle means, a longitudinal axis for insertion through said wheel hub, and a second end having means for adjustable locking of said wheel hub to said bicycle fork.

6. (new): The quick release assembly of claim 5 wherein said axle means includes multiple locking locations and said lever arm includes actuating means for selectively engaging and disengaging said locking locations.

7. (new): The quick release assembly of claim 6 wherein said locking locations include receptor means responsive to said actuating means, and said actuating means includes operating means for selectively connecting and disconnecting said actuating means and said receptor means thereby locking and unlocking said locking locations allowing selective movement of said lever arm.

8. (new): The quick release assembly of claim 7 wherein said receptor means includes multiple cavities and said actuating means includes a spring urged pin for forcing a ball bearing into a selected cavity thereby locking said lever arm, and whereupon depressing said pin against said spring releases said ball bearing from said selected cavity thereby allowing movement of said lever arm to provide multiple locking positions for detachable mounting of said wheel hub to said fork.

9. (new) Quick release apparatus for detachable mounting of a wheel hub to the fork of a bicycle, the apparatus comprising:

a cam assembly having a long travel face, a cam lever arm, and a cam axle for rotation thereabout by said cam lever arm;

skewer shaft means connected and responsive to said cam axle for insertion through said wheel hub:

said cam axle and said cam lever arm coacting to provide hold and release means to effect multiple locking positions of rotation of said cam lever arm about said cam axle;

said hold and release means including multiple cam axle locations and cam lever arm actuating means for sequential selective accessing said cam axle locations by said actuating means thereby to provide multiple rotational positions of said lever arm about said cam axle whereby said skewer is selectively inserted through said wheel hub.

10. (new): The quick release apparatus of claim 9 wherein said cam axle locations include multiple indentations in said cam axle and said actuating means include a hold and release pin and a spring whereby under pressure from said spring said hold and release pin forces a ball bearing into a selected one of said multiple indentations thereby locking said lever arm and upon depressing said hold and release pin against said spring said ball bearing is released thereby allowing further movement of said lever arm.